

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
1 March 2001 (01.03.2001)

PCT

(10) International Publication Number
WO 01/13932 A2

- (51) International Patent Classification?: A61K 38/00 (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (21) International Application Number: PCT/GB00/03292
- (22) International Filing Date: 24 August 2000 (24.08.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
9920262.4 26 August 1999 (26.08.1999) GB
- (71) Applicant (*for all designated States except US*): KING'S COLLEGE LONDON [GB/GB]; The Strand, London WC2R 2LS (GB).
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): FRASER, Lynn, Repsis [GB/GB]; 7 The Highlands, Rickmansworth, Herts. WD3 2EW (GB).
- (74) Agent: TOLLETT, Ian; Williams, Powell & Associates, 4 St. Paul's Churchyard, London EC4M 8AY (GB).

Published:

— Without international search report and to be republished upon receipt of that report.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: STIMULATION OF SPERM FUNCTION

WO 01/13932 A2

(57) **Abstract:** A combined medicament for increasing the capacitation of mammalian sperm is described, comprising two or more agents each of which is selected from the groups consisting of (1) calcitonin, (2) angiotensin II, and (3) a modulator of adenosine receptor activity, which may be fertilization promoting peptide (FPP) or adenosine or a specific adenosine receptor agonist. A preferred combination is calcitonin, FPP (or FPP/adenosine), and angiotensin II. The agents may be formulated as (1) a cream, jelly or pessary containing from 100 nM to 100 μ M FPP or from 10 μ M to 10 mM adenosine, from 5 ng/ml to 5 μ g/ml salmon calcitonin or from 200 ng/ml to 200 μ g/ml of human calcitonin and from 1 nM to 1 μ M angiotensin II, or (2) as a sperm preparation for use in the treatment of human infertility containing from 12.5 to 500 nM FPP or from 0.5 μ M to 100 μ M adenosine, from 0.5 to 150 ng/ml salmon calcitonin or from 2 ng/ml to 1000 ng/ml of human calcitonin, and containing from 0.1 to 100 nM angiotensin II. For agricultural use a sperm preparation may contain concentrations of added FPP from 12.5 nM to 1 μ M or adenosine from 0.5 to 100 μ M, salmon calcitonin from 0.5 to 400 ng/ml or porcine calcitonin from 2 to 1000 ng/ml, and angiotensin II from 0.1 to 100 nM. The use of angiotensin II alone for the preparation of a medicament for stimulating the capacitation of mammalian sperm is also described.